Why Science Believes We Are On Our Way Back to the Pygmies

Science Verifying the Scriptural Statement That "There Were Giants in Those Days" Explains How All Forms of Life Started Little, Grew Into Gigantic Beings and Are Now on the Downward Grade to Dwarfs Again

How the Horse Grew from a Pygmy Into a Giant and Is Now Steadily Getting Smaller Again. (1) The Little Two-Foot High Ancestor of the Horse, Which in Turn Came from a One-Foot High Similar Animal. (2) The Extinct Giant Horse Equus Giganteus, of Texas, Who Was Twice the Height of Three of the Modern Percherons, One of the Biggest of Modern Horses.

By Dr. W. H. Ballou.

IN Genesis, chapter 6, verse 4, it is said: "There were giants in the earth in those days." And in all the legends of all the nations of the world there persist stories of gigantic men. Frazer, in his "Golden Bough," and Spencer, in his discussion of myths, both point out that a tradition, no matter how seemingly impossible, usually has its basis in solid fact—even though that fact be exaggerated and distorted. The mind of man is incapable of conceiving anything original; it must first have its basis of fact upon which to build.

Extraordinary confirmation of the text in Genesis so widely quoted and justification for this widespread belief in giants, has recently come into existence through the studies of various expeditions upon fossil remains, and particularly where mankind is concerned, by the American Museum Belgian Expedition, under Drs. Lang and Chapin, who have just returned from the Congo region of West Africa with various collections of the culture of the pygmies, the oldest existing human race which inhabits that region.

Naturally, the expedition could not shoot, trap and secure the skins and skeleton of the little negroes, but they did secure and bring back model plaster casts, photographs and drawings from which a group of these most interesting humans has been modeled and set up in the Hall of Man.

The observations of Drs. Lang and Chapin have aroused much discussion in scientific circles concerning the whole of pygmyism in nature generally.

And the astonishing conclusions have been reached that every form of life on earth, including man, begun in littleness, reached an apex of giantism and, with very few exceptions, is now on the downward grade again, perhaps to pygmyism.

For instance, Pithecanthropus, the dawn man, has been discovered to have been a pygmy. What is called the cephalic measure of his skull—that is the contents in cubic inches—was only forty-five. His skeleton and skull continued to increase, culminating in the Heidelberg giant of Germany, the largest human being who ever existed, whose cephalic index was 100 or more, and who stood most probably eight to ten feet high. The dawn man was probably not more than four feet high. To-day the human skull is reduced to an average of seventy-five on the cephalic index, and the average tallest frame is six feet.

From Pithecanthropus Erectus to the Neanderthal giant was 250,000 years. The giants died out approximately 75,000 years ago. Man has, therefore, shrunk a quarter from his highest point during 75,000 years.

The most useful of the domestic animals, the horse, started out 2,500,000 years ago as a tiny foot long little animal who was, except for certain differences in hoofs, a miniature replica of certain breeds of horse of to-day. It took him almost 2,000,000 years to grow up to the size of the gigantic horses of the Pleistocene age, which were almost twice the height of the Percheron of to-day, which is now our biggest horse. But these instances of small bulk increasing in size to giantness, then declining again toward the original proportions, runs through the whole animal kingdom, including the insects.

Giantness was caused, if we follow the conclusions of Professor Osborn's new work, "The Origin and Evolution of Life," by a gradual increase in the size and capacity of the pituitary and thyroid glands in all genera of animals.

To go back to the horse.

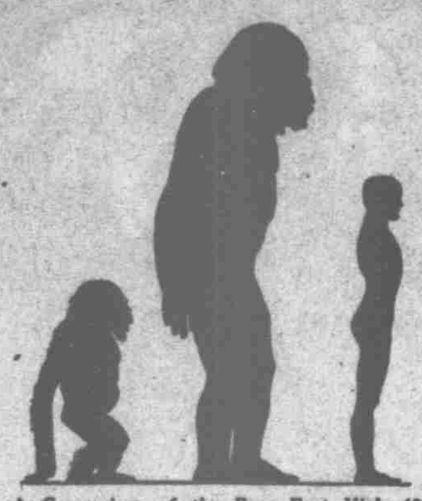
The first horse was Eohippus, of Lower Eocene times in Europe, which migrated across Asia to western North America, one foot high, with four toes. Its successor was Mesohippus, of Lower Oligocene times, two feet high, with three toes. It was followed by Moerihippus, of Miocene times, three feet high and with three toes, which did not touch the ground as in the case of the former and were functionless. These were followed by varied species of horses of the genus Equus, ranging from Pliocene times to the present. They culminated in size in the huge Equus giganteus of Texas in Pleistocene times. Giganteus, according to Scott, exceeded in size modern draught horses. He may have been twice their size.

It is notable, however, that a pygmy horse also persisted. Equus tau, of Mexico, becoming extinct with giganteus and all other species of American horses in Pleistocene times, through serving as prey to carnivorous mammals and Pleistocene man, and through epidemic diseases. The draught horses, the Shetland pony and other varieties of to-day present the respective return to smaller sizes.

The elephants began their career as exceedingly small mammals. Whether we start them with Moeritherium or Paleomastodon of Lower Oligocene times of Egypt, or with the American Mastodons of Miocene times in America, they were not more than six feet high. The series culminated in size in the huge American elephant of the Pleistocene era, Elephas imperator, fourteen feet high at the shoulder, with immense tusks, which, by rising, could add many feet to its height.

Here again the size of the tuskers has gradually diminished to some ten feet in height. And here again a pygmy elephant has persisted almost from the beginning and would still be dominant on the islands of Cyprus and Malta if modern men had not hunted it to extinction.

The dinosaurs began as little fellows, from one to two feet high or long, in the Triassic era of Connecticut, where their footprints are found in the valleys and innumerable quantities of their bones. Anchisaurus holds the honor as the original dinosaur. Gradually they increase in bulk until Jurassic times, when such awkward monsters as brontosaurus reached a length of sixty-five feet, atlantosaurus a height of twenty-five feet, while in Africa gigantosaurus was higher and bulkier than all.



A Comparison of the Four Foot High 40 Unit Skulled Pithecanthropus Erectus, Man's Ancestor; in the Centre Is the Gigantic Nine Foot High, 100 Unit Skulled Neanderthal Man, Who Evolved from Him During a Quarter of a Million Years; Last, Modern Man, Average Six Feet and Head 75 as Against the Neanderthal's 100 Size.

In our own Montana Rex tyrannosaurus was the hugest carnivorous animal that ever lived. The American Museum has a pair of skeletons, one erected with head towering nineteen feet above the floor and with a length of forty-seven feet from nose to tail tip.

Brontosaurus is supposed to have weighed twenty tons and to have consumed 4,000 pounds of leaves at a meal. We don't know positively what type of reptile it descended from, probably from a small generalized lizard, or rhyncocephalian, of Permian times in Texas. If the creature has any descendants they comprise some small lizard of modern times, say a moloch or the Tuatara or Sphenodon of New Zealand.

The cats, dogs, bears, etc., or, rather, the carnivora, began as small animals, creodonts, in the Eocene era. Each type evolved into huge beasts as large as oxen, mostly in North America, but also in Europe and Africa. After lower Oligocene times they gradually dwindled in size to that of the modern lion, tiger, grizzly, dog and domestic cat. The hugest lions, wolves, tigers and bears are characteristic of the fossils found in the rocks of California and Idaho. Of these the cat tribe is the most peculiar, having 230 separate bones and more than 400 muscles.

All of the cat family dislike water and will seldom enter it, probably due to the experiences of far-off ancestors with water reptiles and fear of being hauled under by large fish. First, cats had prehensile tails by which they hung to limbs of trees over water and caught passing fish. To this day a cat loves fish above all other foods, but will not enter the water to capture the dear ones. The gigantic cave bear was a true carnivore of elephantine size. His descendants, however, are carnivores only in skeletonic form. As a matter of fact, the modern bear is a vegetarian.

The former gigantic oxen-sized wolf has become so reduced in form that he has now greater speed for catching prey and fleeter limbs for escaping his one enemy—man. He has more brains than man, in a way, since there is no mammal extant so difficult to catch or kill as the wolf. Trap one, and every wolf around will thereafter avoid traps. Poison one, and every wolf learns how it was done and thereafter cannot be poisoned. Wolves somehow enter closely guarded corrals and get away with sheep, lambs, calves, etc., at night without detection. First they slay the victim silently with sharp fangs at its throat, then leap the fence with the carcass and are gone. Pursuit is vain. Cunningly they conceal their lairs where the young are born and reared, and seldom are these lairs ever detected and robbed by hunters.

Whales started as small primitive carnivorous land mammals, ambitious to get into the water where there was food in abundance. Thus, the Zeuglodon was first on deck, looking more like a sea serpent than a whale. The toothed forms, coming in with Eocene times, grew to enormous bulks, but have gradually dwindled to modern so-called dolphins, porpoises and narwhals.

The toothless, or whalebone forms, such as the right whale, and the humpback, etc., of uncertain origin, are now at their most gigantic period and later will be found only in smaller bulks or become extinct. Of these the right whale has been practically exterminated by man for its whalebone for women. The other species are being killed at the rate of 1,000 carcasses annually for food and oil. Owing to the increased demand, the annual capture will be soon be doubled until finally there will be no whales extant, or only much smaller ones.

The same may be said of existing gigantic sharks and rayfish, such as the sixteen-ton basking shark, whale shark and the eight-ton Manta, or ray, or devil fish. Their hides are wanted for leather, and they, too, will soon disappear entirely or be found only in diminutive sizes. Extermination of the only existing gigantic land mammals, such as the elephant, hippos, rhinos, giraffes, etc., is likewise going on to feed the maw of commerce. Of these only a few elephants will soon be left as drawers of wood. All of these animals are now undergoing their period of giantness, preliminary to a general decline in size all along the line.

Snakes commenced some thirteen million years ago as small lizards, elongated like whipcords and having but slender limbs. Williston thought Araeoscelis, a lizard of the Texas Permo-carboniferous era, might well have been a sufficiently generalized lizard to have been ancestral. Having discarded all of its lizard limbs and all of its skull bones except a mere skeleton frame, so it could swallow prey larger than itself, the snake, after nine million years, came to very near its present form, but of the most gigantic size.

Thus in the red sandstones of the Cretaceous era of Patagonia of 4,000,000 years ago, Dinilysia was found by Woodward to be upward of fifty feet long. The last of the giant snakes was in the Eocene period, Marsh finding the remains of Dinophis in the green sands of Monmouth County, N. J., a snake possibly even larger and more terrible than Dinilysia, and certainly having wider opening of jaws and throat.

Thereafter snakes dwindled in length and girth down to our little tame garters. At best we have no species existing longer than twenty-five feet or much larger around than a stovepipe, such as the python, the boa and the anaconda.

In the same Patagonian times with Dinilysia was the most gigantic turtle of any era, Miolania, armored and terrible, living in marshes with one of the bulkiest dinosaurs, Genyodectes. Thus the turtle arose in the Triassic era as little fellows, gradually increasing in bulk, then declining in size down to such marine turtles from the West India as are seen in the markets.

The largest modern turtles, the leather backs, at most do not exceed 1,200 pounds weight, and would have made but few mouthfuls for Miolania. Out of that Patagonian age of huge creatures, which include one of the most gigantic of birds, Phororhacos, two forms have managed to survive the several million years of wear and tear of earth, that doubly armored herring, Diplomystus, in the rivers of Chile, and the mudfish, Ceratodus, in the rivers of Queensland, Australia, once connected with Patagonia by the Antarctic route, when that now frozen region grew bananas.

The Rise and Fall of a Dinosaur. 1.—Is the Foot Long Primitive Amphibian of Fifteen Million Years Ago, Which Later Evolved Into (2) a Four Foot Lizard Form Called Rhytidodon. 3.—Is the Gigantic Armored Stegosaurus Ungulatus, Which Attained a Length of Thirty Feet; and (4) Is the Modern Two Foot Lizard Called Moloch, Which Is the Dwarfed Descendant of the Monster Beside Him.